

2022 BirdSO Mini Division C Ornithology Exam



Welcome to BirdSO Ornithology C! This test will be at national level rules, and there will be a couple math involved questions. Because of this, participants are each allowed a non-programmable calculator. Don't worry if it's not scientific, the math isn't too hard (this is Orni after all).

You will have 50 minutes to answer 122 questions that are worth a total of 206 points. The questions are divided into 15 stations of roughly 8 questions each. We tried to focus less on pure identification and more on the science behind all aspects of Ornithology.

We won't be able to answer questions during the testing period, but if you have any questions, comments or concerns we have included a feedback form at the end of the test.

Good luck to all of you!

Station 1



Questions 1-9 will refer to this image.

1. Give the common and scientific name of this bird. (2)
2. Does this bird winter in the United States? If so, what states? (1)
3. How does this bird's summer diet differ from its winter one? (2)
4. Are all of this bird's feathers black, gray and white? Explain. (2)
5. Give two materials that make up the outer layer of this bird's nest. (2)

6. This bird was frequently shot because it was believed to kill what important insect? (1)
 7. What family of birds are important nest predators of these birds? (1)
 8. Research shows that the migration of these birds is dictated by endogenous factors. What does this term mean? Give an example of one. (2)
 9. [TB 5] Along contested territorial borders, what display do these birds perform? Describe it. (3)
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Station 2



Questions 10-17 will refer to this image.

10. Give the Common and Scientific name of this (cute) bird. (2)
11. In what type of habitat do these birds nest? Name the two islands with the highest populations of this species. (3)

12. Name a long-term conservational threat that affects this species. (1)
 13. Why is a lack of wind unfavorable for this species? If a gust of wind is travelling northwest, in which direction will this species run in order to take off? (2)
 14. This species has several behaviors to avoid overheating. Name two. (2)
 15. What behavior do these birds perform in between copulation and laying eggs? Describe it. (2)
 16. Name a native predator to this species. (1)
 17. This species, as well as related species, are often referred to as “tubenoses.” What anatomical feature makes a bird a “tubenose?” (1)
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Station 3



Questions 18-25 will refer to this image.

18. Give the common and scientific name of this bird. (2)

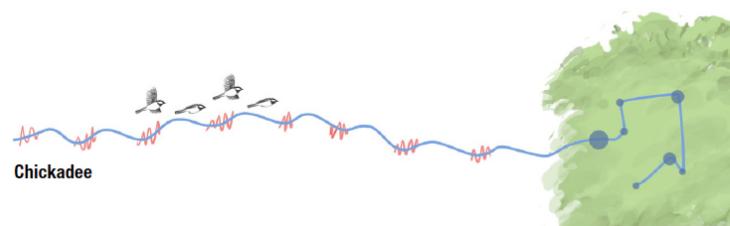
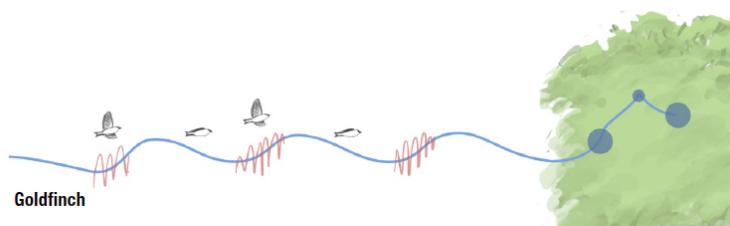
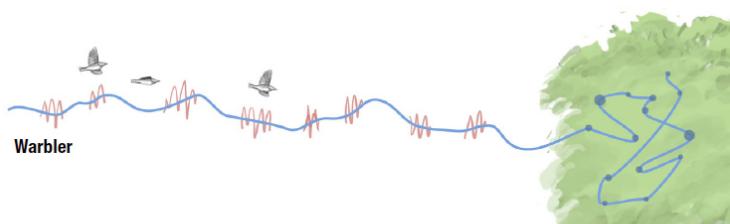
19. What vocal characteristic makes this bird unique among other members of its family and order?
(1)

20. Define the term *Irruptive*. Are these birds known to be irruptive? (2)

21. The box elder is a plant with abundant seeds that last throughout the winter. How has the spread of the box elder as an ornamental plant affected this bird? (1)

22. Ignoring the possibility of juvenile, is the bird in the image male or female? How do you know?
(2)

23. Does this bird breed in more coniferous or deciduous woodlands? Relative to other members of its genus, is it more or less tied to these woodlands? (2)



24. Here are some flight patterns for certain songbirds. Which bird has a most similar pattern to the bird in question? What is that flight type called? (2)

25. Once this bird flies to a feeding location, describe 2 microhabitats within the forest in which it would feed in? (2)

Station 4



Questions 26 - 33 will refer to this image.

26. Give the Common and Scientific name of this bird. (2)
27. [TB 6] These birds roost in colonies as seen above. Name two adaptations that these birds' eggs have to be better fit for survival in these colonies and explain how they help. (4)
28. Describe this bird's bridle plumage. Do the birds in this photo exhibit bridle plumage? (2)
29. Name two fish species that this bird would feed on in Pacific colonies. (2)
30. What is kleptoparasitism? Describe the circumstances in which this bird would engage in this behavior. (2)

31. Plastics in the ocean are a problem for many seabirds and other marine species. However, studies have shown that relatively low levels of plastic are found in specimens' gizzards when compared to other species in the same habitats. Describe why this is. (1)
32. [TB 2] While plastics may not be a big harm to this bird, oil pollution is. Describe the main way oil leads to the death of seabirds like these. Hint: It's not ingestion. (2)
33. T/F: Unlike other species in it's family, males incubate the egg with almost no help from the female. (1)

Station 5



Questions 34-40 will refer to this image.

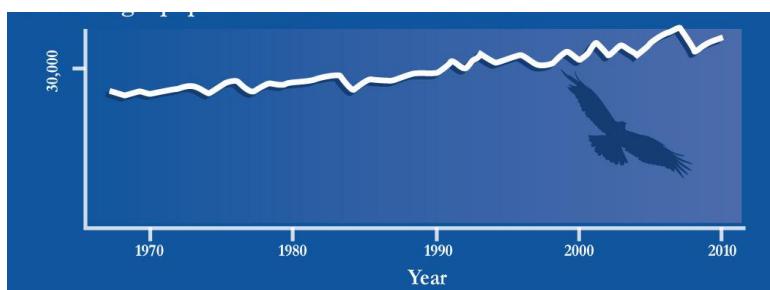
34. Give the Common and Scientific name of this bird. (2)

35. Select all that are “V”-shaped for this species. (1)

- a. Migration flocks
- b. Wings while hunting for prey
- c. Egg arrangements in the nest
- d. Distribution across North America

36. [TB 7] How many countries have this bird as their national animal? Name 2. (3)

37. During courtship, these birds are known to perform “sky-dancing.” Describe this behavior. (2)



38. Pictured is a graph for the population size for this bird. Which event, occurring in 1962, likely accounts for the majority of the upward trend in population? Are these birds r-selected or k-selected? (2)

39. Describe the appearance of an egg laid by this species. (1)

40. Which of the following choices best describe the habitat of this species in the Northern Hemisphere? (1)

- a. Old-growth forest
- b. Riparian environment
- c. Urban setting
- d. Grasslands

Station 6

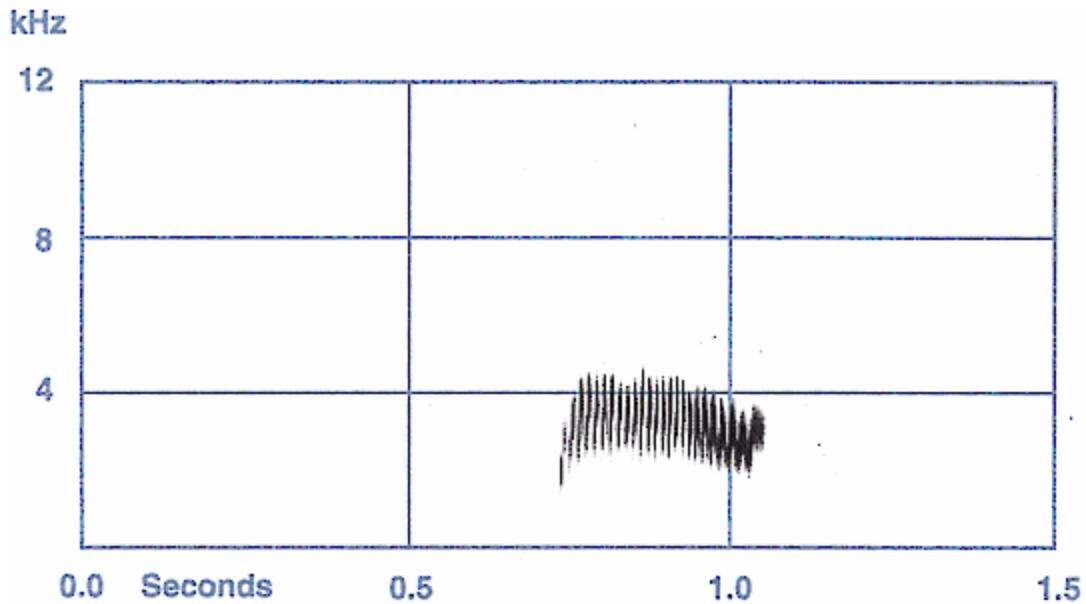


Questions 41-48 will refer to this image.

41. Give the Common and Scientific name of this bird. (2)

42. Within urban areas, how has human development changed where this bird nests? (1)

43. Within urban areas, how has human development changed where this bird likes to feed? (1)



44. This is a sonogram of this bird's *peent* call. Would the male or female make this call? During what behavior? (2)
45. Along with cats and many other vertebrates, this bird has a structure in its eye called a tapetum lucidum. Describe how this anatomical feature assists these birds. (1)
46. These birds are described as being crepuscular. What does this word mean? (1)
47. The palest subspecies of this bird is found in what part of North America during breeding season? Answer with general region or specific states/provinces. (1)
48. T/F: These birds are territorial during breeding season. (1)

Station 7



Questions 49-56 will refer to this image.

49. Three species on the list appear in this photo. The questions will refer to the species with SMALLEST North American distribution of the three. Give the common and scientific names of that bird. (2)
50. What does this bird's genus name mean in Greek? (1)
51. What word describes this bird's mating system? Hint: it is more specific than polygamy. Describe what this word means. (2)
52. Name the two ecosystems that combine to form this bird's most common breeding habitats. (2)
53. Why is this bird often targeted and shot/trapped by farmers? (1)

54. Name a bird on the list that would hunt adults of the bird. To fend off predators, these birds often mob. What is mobbing? (2)



55. [TB 8] The two birds pictured here come into conflict with the bird you identified in breeding grounds. Give the common name of the bird on the left. Why does this bird conflict with the bird identified in question 49? Which one generally dominates the other? (3)
56. For the bird on the right, give its common name. Why does this bird come into conflict with the bird identified in question 49? (2)
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Station 8



Questions 57-64 will refer to these images.

57. Give the Common and Scientific name of this bird. (2)

58. [TB 1] Is it likely that the bird pictured produced the scat sample shown? Why or why not? (2)

59. Describe the anatomical features of the bird that produced the scat sample which caused it to form a "J" shape. (1)

60. Does this bird exhibit sexual dimorphism? (1)

- a. Yes
- b. No

61. Give the origin of this bird's scientific name. (2)

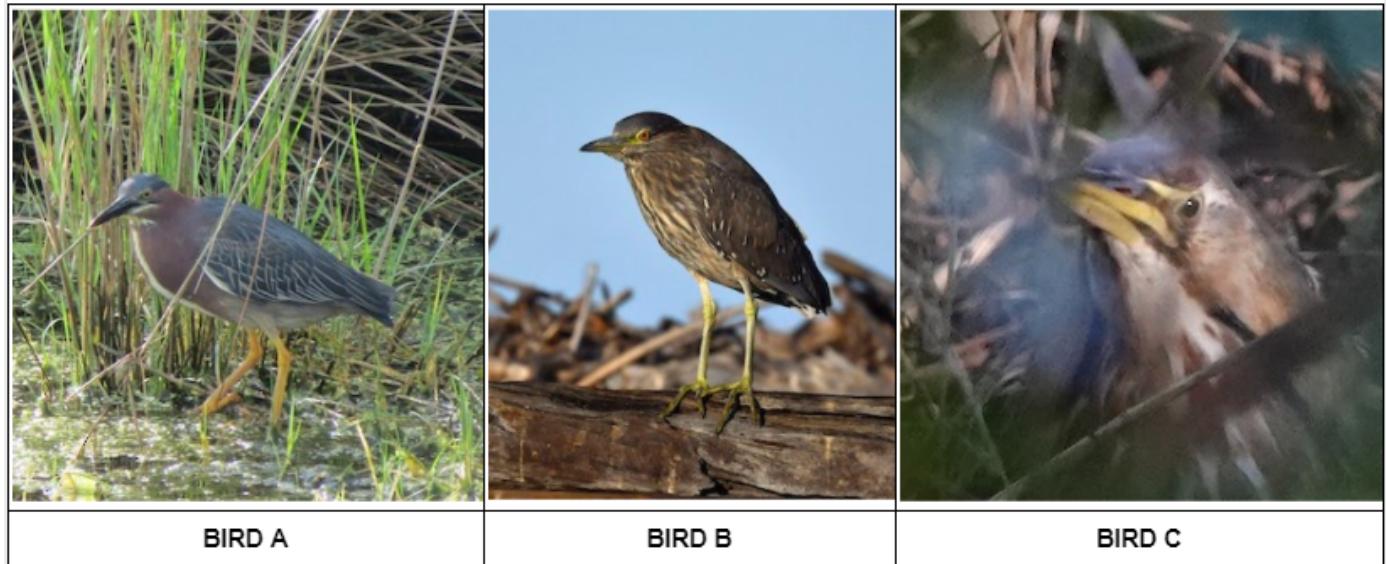
62. [TB 9] Name two food items from this bird's winter diet, and name the anatomical feature the food will be stored prior to digestion. (3)

63. Who are the eggs of this species incubated by? (1)

- a. Male only
- b. Female only
- c. Male and female

64. T/F: These birds typically follow polygynous mating behaviors. (1)

Station 9



Questions 65-74 will refer to these images.

65. Give the Common name of Bird A. (1)

66. Give the Common name of Bird B. (1)

67. Give the Common name of Bird C. (1)

68. Identify which bird, if any, is in a different order than the other two birds. (1)

- a. Bird A
- b. Bird B
- c. Bird C
- d. They are all in the same order

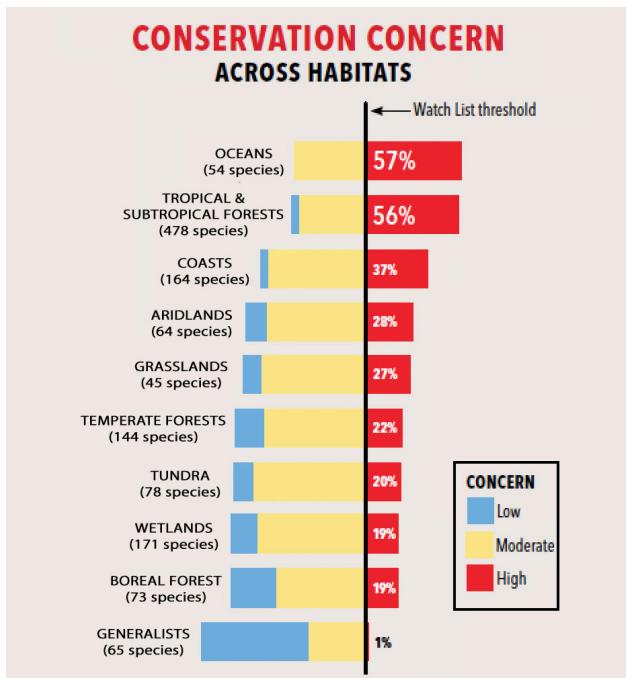
69. You hear a thumping, gulping call whilst birdwatching over a marsh. Which of these birds is the likely culprit? What is the common mnemonic used to describe this gulping call? (2)

70. Select all birds that are chiefly found in marshes. (1)

- a. Bird A
- b. Bird B

- c. Bird C
 - d. None of the above
71. Select all birds that nest colonially. (1)
- a. Bird A
 - b. Bird B
 - c. Bird C
 - d. None of the above
72. Which of these birds is typically the smallest and most lightweight? (1)
- a. Bird A
 - b. Bird B
 - c. Bird C
73. Select all birds whose eggs could be described as greenish-blue. (1)
- a. Bird A
 - b. Bird B
 - c. Bird C
 - d. None of the above
74. Which term most accurately describes the young of all three birds? (1)
- a. Altricial
 - b. Precocial
-

Station 10



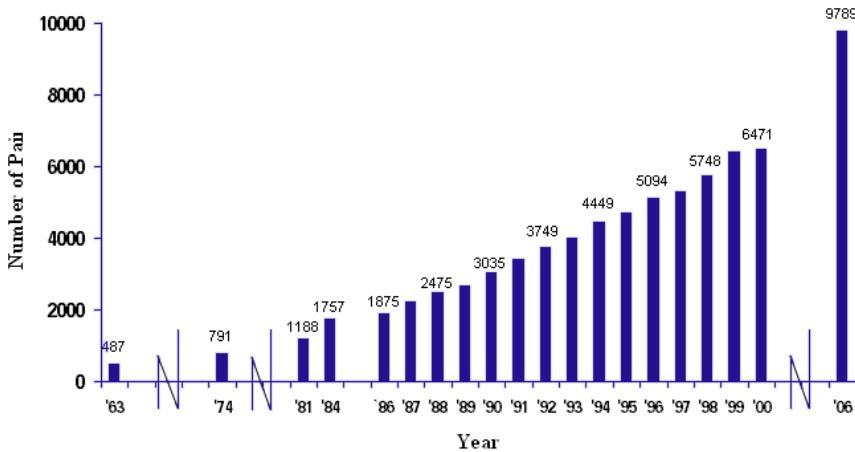
Questions 75-82 are about avian conservation.

Questions 75-77 will refer to this image.

75. This data comes from the 2016 State of the Birds report, which analyzed the vulnerability of all birds across the U.S. and Canada. Using the data, which habitat has the highest percentage of its species with “high concern”? Name two human actions that might threaten birds in these habitats. (3)

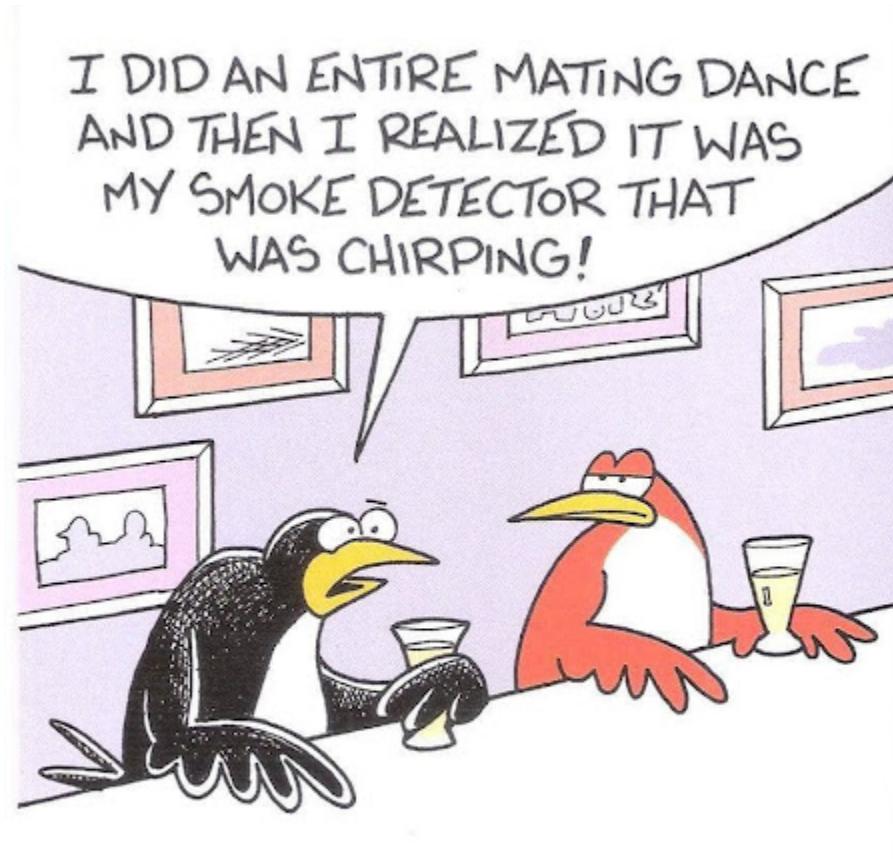
76. Which habitat has the highest number of species with “high concern”? Name two human actions that might threaten birds in these habitats. (3)

77. Which group is the least threatened? Why do you think this is? (2)



78. The graph above depicts the number of breeding pairs of Bald Eagles each year. What pesticide was the biggest threat to this bird? (1)
79. Describe the path that compound took to get from agricultural areas to the body of a Bald Eagle. (2)
80. How did the pesticide in question 78 negatively affect Bald Eagles? (1)
81. Which of these had the largest impact on restoring Bald Eagle populations? (1)
 - Captive breeding programs
 - Government regulations
 - Reforestation
 - Protection of the nest sites
82. The Bald Eagle is one of the most famous success stories in terms of Avian Conservation. What raptor on the list is currently critically endangered? Why is this bird recovering much slower? (2)
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Station 11



Questions 83-90 are about avian reproduction.

83. Which of the following is the most common mating system of the class Aves? (1)

- a. Monogamy
- b. Polygyny
- c. Polyandry
- d. Promiscuity
- e. Asexual Reproduction

84. In which of the above mating systems would you find a lek? Name a bird that forms leks. (2)



85. [TB 10] To what species does the brown egg belong, how does the practice of laying eggs in other birds' nests benefit this species, and what is this practice called?
86. Through which process are most species of birds fertilized? (1)
87. [TB 3] A female black-necked stilt is born with a deformation in its right ovary. How will this affect this individual's reproduction capabilities in the future? (1)
88. T/F: The sex of the offspring depends on the chromosome in the female's egg. (1)
89. What are the two main types of development in newly-hatched birds? Which mode of development would be most fitting for a fictional species of bird that lives in the desert, where resources are a scarcity? (3)
90. Name two effects of elevated levels of Testosterone in a bird's bloodstream. (2)

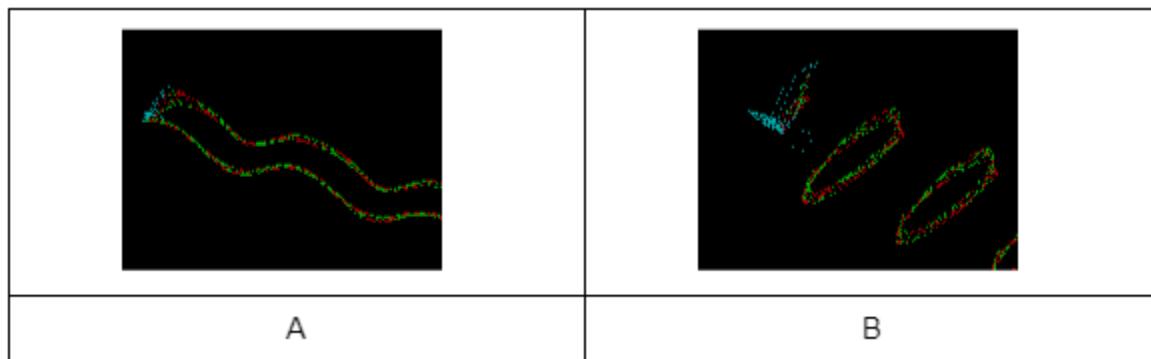
Station 12

Birds Fly 🦜

Questions 91-98 are about flight.

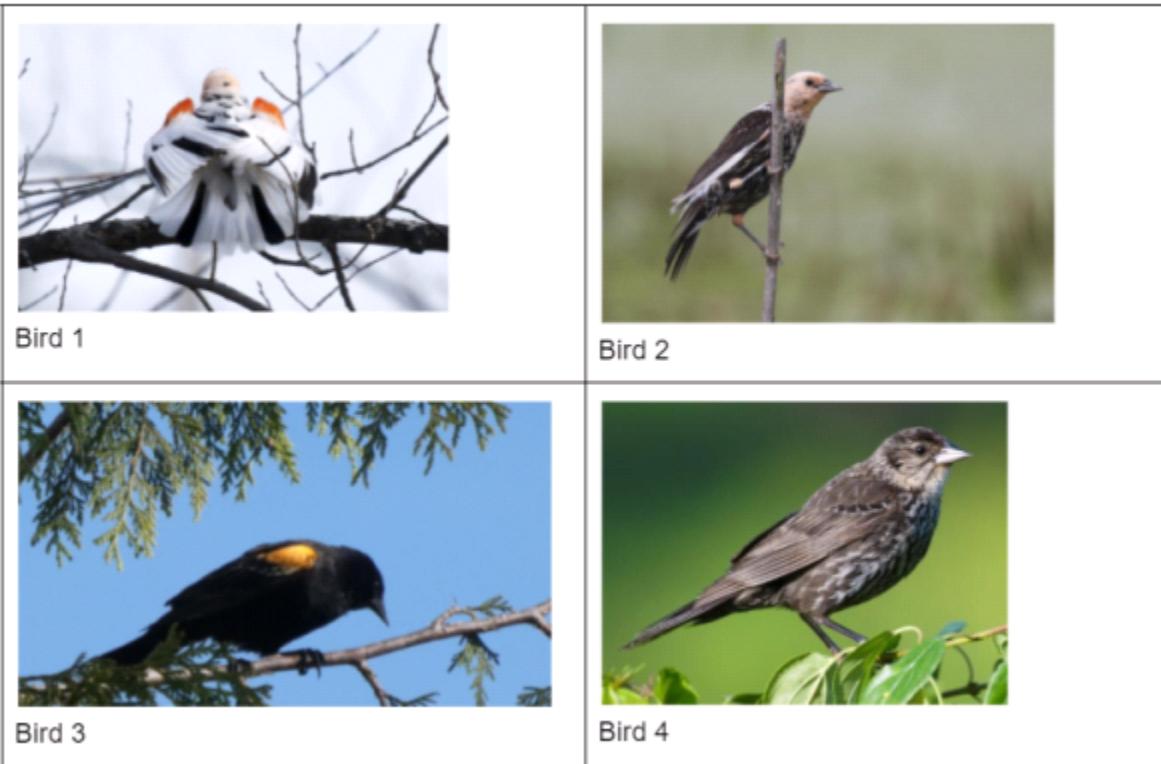
91. A Wandering Albatross specimen has a wingspan of 338cm and an average wing width of 15.5cm. It weighs 9031 grams. Calculate the aspect ratio of the specimen. (2)

92. A Wandering Albatross specimen has a wingspan of 338cm and an average wing width of 15.5cm. It weighs 9031 grams. Calculate the wing loading of the specimen with proper units. (2)
93. Relative to other birds, which statement best classifies these values? (1)
- High aspect ratio, high wing loading
 - High aspect ratio, low wing loading
 - Low aspect ratio, high wing loading
 - Low aspect ratio, low wing loading
94. [TB 4] The pressure of the area above the wing is 1009mb, and the pressure below the wing is 1014mb. Knowing this, is this wing experiencing lift? Explain why, in terms of air speed and Bernoulli's principle. (4)
95. The angle from the relative wind to the chord line of the wing is known as the angle of ___. (1)



96. Name the two flight gaits shown above. (2)
97. Which flight gait generally produces faster speeds? (1)
- Flight gait A
 - Flight gait B
98. Describe two adaptations found on birds that minimize drag while in flight. (2)

Station 13



Questions 99-106 are about pigmentation disorders, and will refer to this image.

99. These birds are all of the same species. Give the scientific name. (1)

100. Which of these birds is a "normal" bird (has a usual plumage)? How can you tell? (2)

101. Define Albinism. Which of these birds is/are albinistic? (2)

102. Define Xanthochromism. Which of these birds is/are xanthochromic? (2)

103. Define Leucism. Which of these birds is/are Leucistic? (2)

104. What is the most likely cause of Bird A's condition? What other possibility can cause light patches of feathers as shown? (2)

105. [TB 11] What are the two probable causes for Bird C's condition? When I snapped this photo, there were no other birds in the area with this condition; which possibility is more likely because of that? (3)
106. Individuals with Bird C's condition are called by what term? Theorize whether Bird A or Bird C will have greater fitness. Explain. (3)

Station 14



Questions 107-114 are about migration.

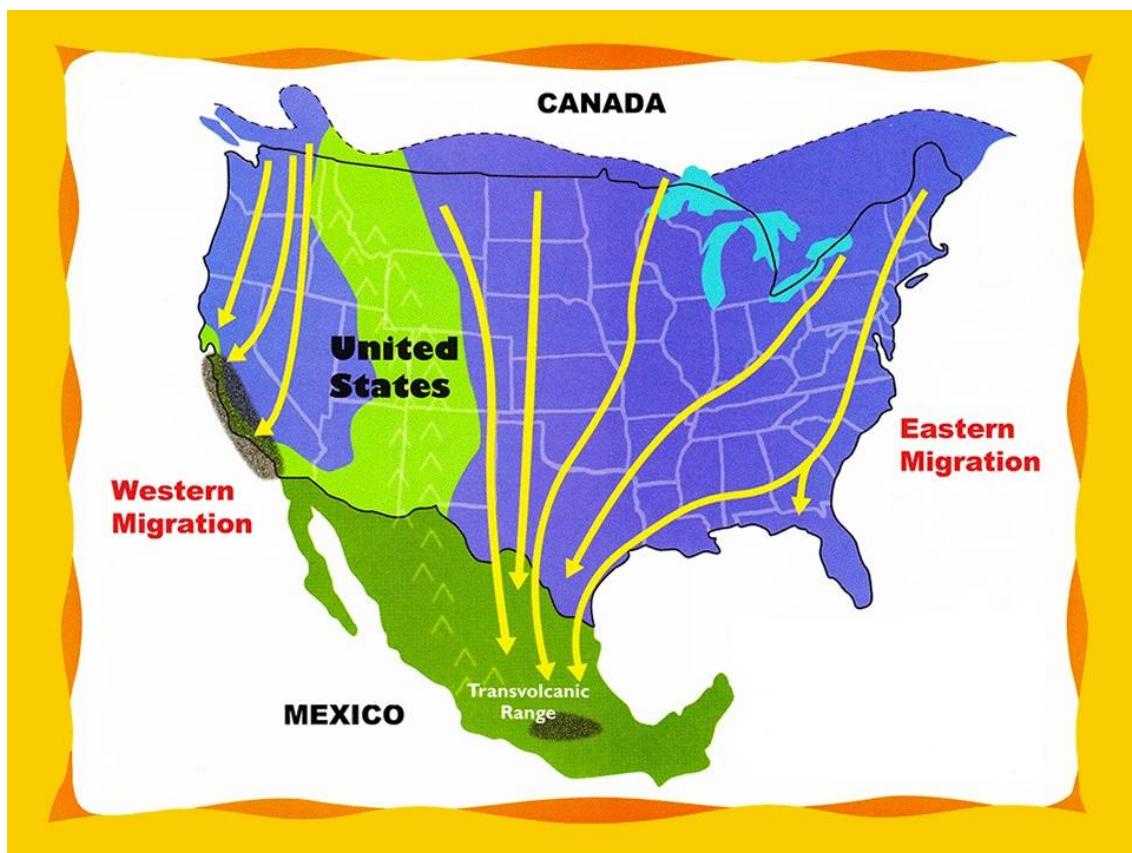
107. Define Philopatry. (1)
108. Name the four main North American Flyways. (2)

109. A group of birds stay in a pack and all migrate to the same wintering location. Would these birds have high or low migratory connectivity? (1)

- a. High migratory connectivity
- b. Low migratory connectivity

110. Are birds that have high or low migratory connectivity more vulnerable to genetic drift? Why? (2)

111. What is the relationship between migratory and population connectivity? (1)



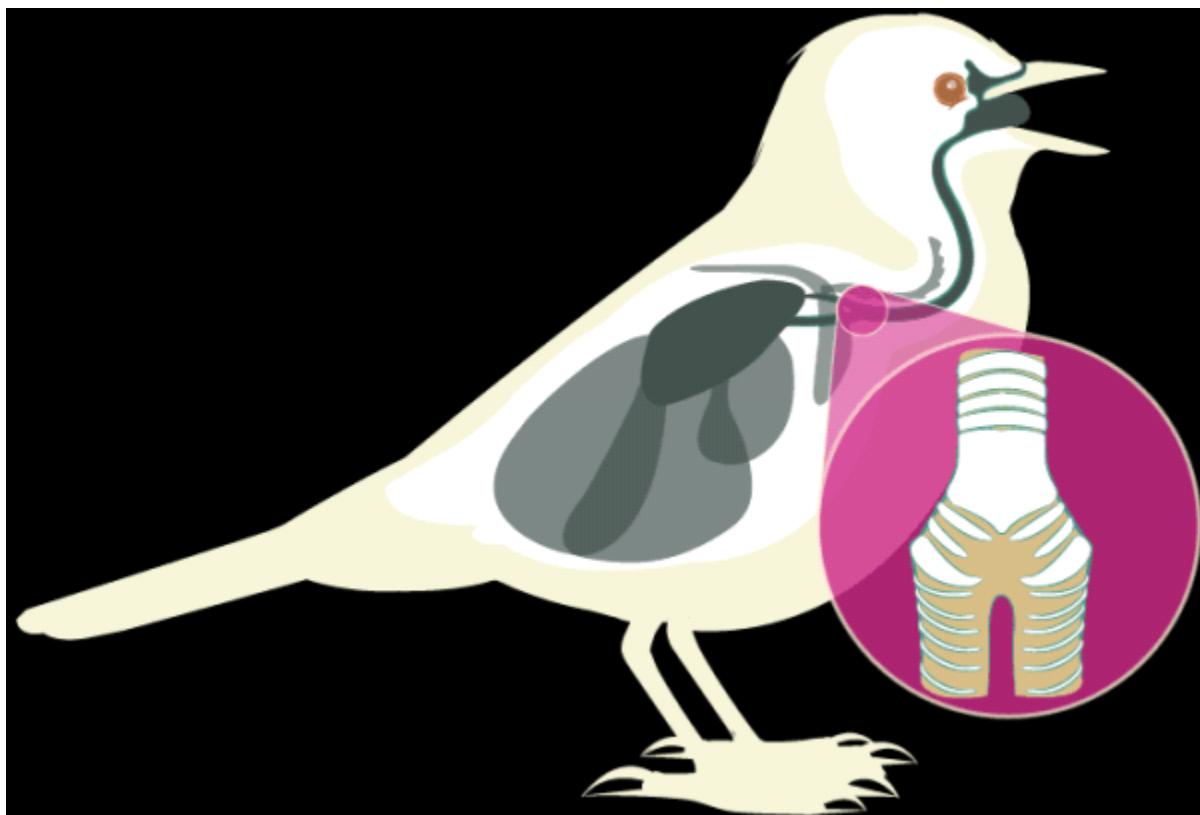
112. This is a map depicting the migration of a bird. They migrate twice a year, every year. Which of the following best describes their migration behavior? (1)

- a. Nomadic
- b. Facultative Migrants
- c. Residents
- d. Obligate Migrants

113. An American Golden-Plover is trapped in a cage in Northern Canada during October. Describe its behavior during the nighttime. (2)

114. Give two reasons why some birds migrate in V-shaped flocks (2)

Station 15

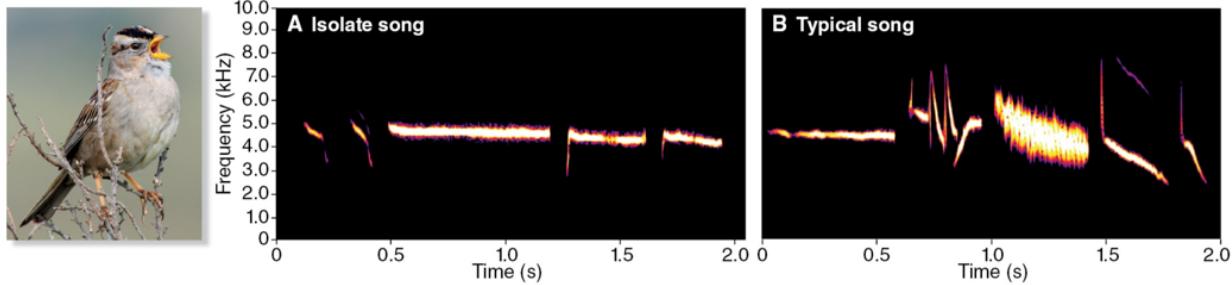


Questions 115-122 are about vocalizations.

115. Which bird organ is highlighted here? What is its function? (2)

116. Select all of the following that defines the difference between a song and a call. (2)

- a. Songs are typically more complex than calls
- b. Songs are typically longer than calls
- c. Songs are always used less frequently than calls
- d. Songs are only used during breeding season



117. Ornithologists ran an experiment where they took a young male White-crowned Sparrow and isolated it from adult males at birth. The spectrogram on the left depicts that bird's song, while the one on the right is a typical song. What does the Spectrogram show? (1)
118. What can ornithologists discern from this data about the development of bird songs? (1)
119. What is the term for the stage in a bird's life where they are best equipped to learn a song? (1)
120. T/F: Much like human speech, birds have dialects that differ by geographic region.
121. Ornithologists say bird songs are used to “repel and attract”. Describe what this means. (2)
122. It is not fully understood why some birds mimic others, but there are two main theories. State both of them. (2)

Thank you for taking this test!

If you would like to ask any questions directly or just talk with us, you can add our discord
AvianTrumpet#3434 and scispork#9934